

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
11 March 2004 (11.03.2004)

PCT

(10) International Publication Number  
**WO 2004/021514 A1**

(51) International Patent Classification<sup>7</sup>: **H01Q 13/08**

(21) International Application Number:  
PCT/KR2003/001750

(22) International Filing Date: 28 August 2003 (28.08.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
10-2002-0051039 28 August 2002 (28.08.2002) KR

(71) Applicant (for all designated States except US): ELEC-  
TRONICS AND TELECOMMUNICATIONS RE-  
SEARCH INSTITUTE [KR/KR]; 161, Gajeong-dong,  
Yuseong-gu, Daejeon 305-350 (KR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KIM, Byung Chan**  
[KR/KR]; #603-1903, Hyundai Apt., Yeolmaemaeul  
6-danji, 880 Jijok-dong, Yuseong-gu, Daejeon 305-770  
(KR). **PARK, Juderk** [KR/KR]; #18-803, Sujeongtown  
Apt., Dunsan 2-dong, Seo-gu, Daejeon 302-775 (KR).  
**CHOI, Hyung Do** [KR/KR]; 16-42 Dapsimni 4-dong,

Dongdaemun-gu, Seoul 130-800 (KR). **CHAE, Jong-Suk**  
[KR/KR]; #11-201 Townhouse, 391 Doryong-dong,  
Yuseong-gu, Daejeon 305-340 (KR).

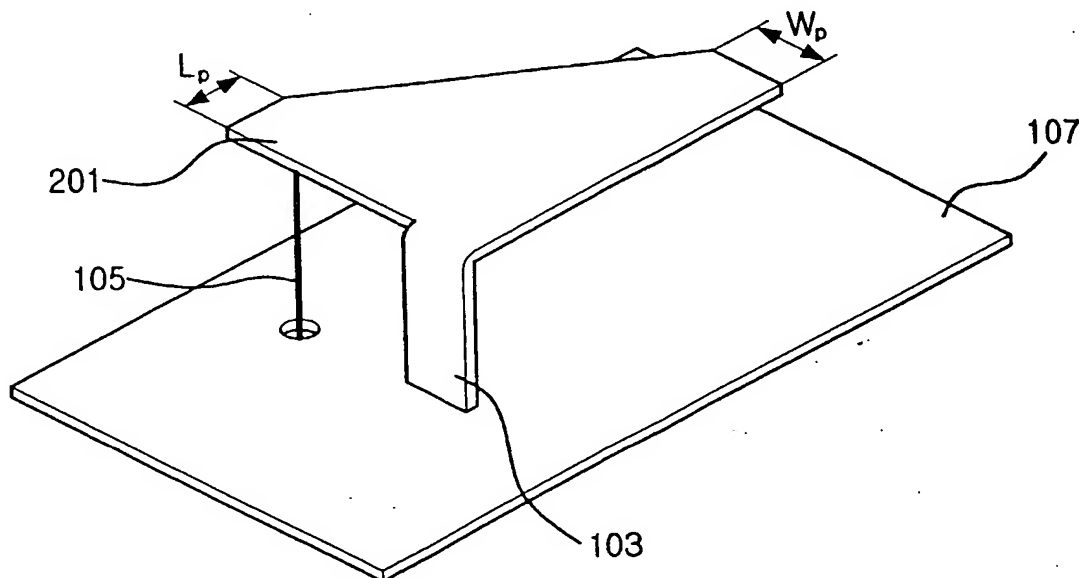
(74) Agent: **SHINSUNG PATENT FIRM**; Haecheon Bldg.,  
741-40 Yeoksam 1-dong, Kangnam-ku, Seoul 135-924  
(KR).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK,  
LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX,  
MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,  
SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG,  
US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,  
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,  
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: RADIATION DEVICE FOR PLANAR INVERTED F ANTENNA



(57) Abstract: A radiation patch having a shape of linearly-tapered rectangle for a planar inverted F antenna is disclosed. The planar inverted F antenna having a radiation patch includes: a ground unit for grounding a radiation patch; a short unit for shorting the radiation patch; a feeding unit for supplying an electric power to the radiation patch; and a radiation patch for radiating electric power from the feeding unit, wherein the radiation patch having a shape of linearly tapered rectangle and a length and width of tapered sides of radiation patch is determined according to a resonate frequency. As mentioned above, the present invention can be easier to be designed and provide wider bandwidth by providing a linearly tapered rectangle shape of radiation patch in a planar inverted F antenna.